

## ABSTRACT OF THE DISCLOSURE

5           A technique, and associated system and computer executable program code on a computer readable storage medium, for automatically correcting distortion of a front-projected display under observation by at least one camera. The technique may be employed in a myriad of front-projected display environments, *e.g.*, single or multiple projectors and cameras are used. The technique includes: observing a first image,  
10   projected from at least one projector, comprising at least one target distribution of light intensities; for each conglomeration of white pixels of a difference image, compute a bounding box comprising a corresponding conglomeration of pixels in a framebuffer information of the camera, compute a bounding box comprising a corresponding conglomeration of pixels in a framebuffer information of the projector, compute an initial  
15   homography matrix,  $H_{temp}$ , mapping pixels of the projector's bounding box to those of the camera's bounding box, optimize the initial homography matrix, compute a central location,  $(C_x, C_y)$ , of the camera's bounding box using the initial homography matrix; and using a plurality of correspondence values comprising the correspondence, compute a corrective transform to aid in the automatic correcting of the display.